

## PROFESSIONAL ANALYSIS

The goal of this project was to answer two specific research questions related to newsrooms using proprietary content management systems.

**R1:** How do newsroom users and content management system developers communicate at news organizations that have built proprietary systems?

**R2:** Do newsroom actors have input in the design and development process of these systems?

To accomplish this, I drew up a list of questions and traveled to New York, where I studied for a semester and conducted interviews with various members of three large news organizations which had built their CMS from the ground up.

These newsrooms offer unique insight into the communication channels because often they have built development and product teams to help support their newsroom, via both new features, new products, and even entirely new CMSes. Though most newsrooms do not have the resource power to build such teams, in understanding how newsrooms like the three included in this study operate, it may help provide more clarity for smaller operations looking to improve or transition between systems.

In a time of massive change to the landscape of the newsroom, the CMS serves as a prime example of changing technology. Faster moving information distribution, alongside new platforms for said distribution have put a strain on old and existing technologies. With more news being consumed on mobile or digital in general, it has become essential for news

operations to update the infrastructure that holds up the entire newsmaking process. This can prove especially tricky, as it often means upending people's established workflows, disrupting routines and retraining staff to accommodate for new tools and abilities.

Though the overall goal for these transitions is to make the newsroom more efficient and better able to complete tasks, the time it takes for such changes to take place and become routine can be turbulent. In understanding how to best communicate the needs of the newsroom to developers, be they in-house or outsourced, it is easier to ensure that the needs of a specific operation are met. Further, by understanding how to implement new features, journalists in newsrooms of all sizes can be empowered to produce better content overall.

This project chose to look at large, proprietary CMSes because in organizations with the power to implement new strategies, various innovations are more able to come to the forefront. Though the strategies may not mesh in a 1-for-1 way to other news organizations, the underlying principles in which news operations address technology change could help other organizations ensure the process is as pain-free as possible.

This research involved interviews with editors, reporters, developers and product managers at three major news organizations: The New York Times, Mic, and the Daily Beast. Each of these are in various stages of implementing and or maintaining house-made CMSes, and their size, goals audience and primary platforms for distribution differ considerably. Through these contrasts, I was able to see the difference in challenges and strategy, from giant operations 1,400 strong like the New York Times, to smaller, digital-first operations like Mic and The Daily Beast. However, there were specific trends that came to the surface.

## **Why these sites?**

The three sites were chosen based on a number of factors. First and foremost, the sites needed to have developed some kind of proprietary system for managing content in their newsrooms. Even though many larger news organizations have implemented such systems, many more still use outsourced CMSes. The idea that these organizations' systems were proprietary was important, as in many of these organizations, proprietary means that there are development and product teams that exist within the same place as newsroom users. This means that the communication taking place would hypothetically be on a more visible level.

The second factor was time since implementation. In trying to understand the processes that take place when a newsroom transitions between CMSes, it became salient to find organizations that had recently made a switch. This ensured that the people present, willing to take part in the research would have a valuable perspective. Some organizations have built their own CMS years prior, and those developers that built said systems may have since moved on to other projects at different locations.

The New York Times developed its own CMS, called Scoop, which has been in place since 2008. The Times' size and scope of operation (over 1,400 people in the newsroom) allowed them to share how they tackle challenges on a large scale. Further, The Times has some of the highest resource power available in the industry, which allows it more financial capital to invest in innovation teams and technology. Information from the Times also provided context about navigating older structures for print and bridging the gap to digital, as the newsroom is not digital native.

Mic was included in this research as a prime example of a smaller news operation born digitally. Most of its traffic is driven by social media platforms, and thus the tools in place to push content to these platforms were unique. Additionally, Mic had just built a new feature to include into its CMS, and the process by which input was gathered surrounding the implementation of this feature provided some clarity on the workflows in place at digital news organizations.

The final newsroom, The Daily Beast, was included primarily because it had very recently gone through a massive change, replacing its CMS tool within the past year. As a result, members of the product team were able to walk me through that process, from sitting down and planning the system, all the way through implementation. As an example of upending technology change in the newsroom, none is greater than replacing the entire backend. Through conversations with members of the team, certain strategies were highlighted to try and make that process as pain-free as possible.

### **How does communication take place?**

Newsroom communication with CMS developers and designers takes place through a number of different channels. In most cases, these interactions occur through communication apps like Slack, where many newsrooms detail bugs and troubleshoot issues regarding the CMS, and in large organizations like the ones I spoke with, there has been an increased emphasis on building teams that exist and operate within the same physical space as the editorial team of the newsroom.

I found that most of these large organizations have built teams that focus specifically on ensuring that stakeholders' needs are being met and product goals are accurately represented.

These product teams often serve as a bridge between those physically designing the tools and those actually using them. In some cases, depending on the size of both the organization and team, these product teams may or may not include developers, but regardless, there are often individuals specifically in charge of gathering input from the newsroom.

The New York Times offers a clear example of this with the structure of its product team. Within the organization there are specific members, known as product owners. In these positions, a primary responsibility is to ensure that the needs of the various and vast stakeholders within the organization are addressed. “[The] product owner is the person who defines what the goals of the product are, is responsible for making sure that business needs are being met through projects,” says one member of the product team. “[They] bring together design work, engineers, to actually prioritize working and executing to see a project through to the end.”

These product owners have proven essential in redefining workflows in place at The Times. In recent years, there has been an increase in users in the system, and only within the past few years has this particular position existed. These product team members also exist to ensure that the consistent vision in place within the news organization is executed throughout each new feature or product that is being developed. “Because of the size of the newsroom, 1,400 people and the number of platforms that we’re responsible for... the sort of dissonance when you’re moving between the system is really strong with all the editors in the newsroom,” one product team member says. “I think honestly, four or five years ago it just wasn’t really as big of a deal. You didn’t have as many people in the system, you didn’t have as many platforms, but now everything is exploding, with Apple news and Clipboard and Twitter and Facebook and

Snapchat.” Prior to the creation of these various product owners, it was a more piecemeal system that could devolve into “anarchy.”

These product teams cite the emergence of such a diversity of platforms as a primary motivator for the creation of a customizable system. “There are actually an incredible number of points that our journalism needs to reach, and managing that in a system that isn’t customized to your needs is a herculean task as we add more and more things we ask our editors to do every day as part of their workflow,” says another New York Times product team member.

These team structures are not unique to The Times. While the monumental size of the organization offers more resource power to devote to the construction of such teams, other, smaller and digital-first organizations follow similar paths. Both Mic and The Daily Beast have a structure in which product team members are responsible for coordinating between both developers and other stakeholders, including newsroom users.

So where does this coordination happen? I found that at these organizations input is gathered from the newsroom primarily around specific occurrences: during transition into a new system or feature and back-and-forth regarding maintenance and troubleshooting of existing systems.

### **Communication in transit**

One key locus where conversation takes place at these organizations is in periods of transition. With new and changing platforms, such as Apple News and Clipboard, news organizations are frequently changing the backend to keep up. One reporter stated that within his last two positions, he’d had experience with four different CMSes. These periods of change are occurring frequently, and it requires newsroom users to more often acclimate to new tools and

workflows, pushing people outside established comfort zones. It is thus essential to build with transition in mind, something that the Daily Beast did with the implementation of its new CMS.

The Daily Beast very recently rolled out a new set of tools, known as the PTK, or Publisher's Tool Kit, serving as the organization's new CMS. This tool exists as the central system which the newsroom operates, and as a result, those at the Daily Beast set out to ensure that the needs of the newsroom were addressed when making this switch through a number of initiatives.

To gain input from someone on the newsroom side, management at the organization assigned a former managing editor to the team responsible for the rollout of this system. In having someone present that had experience on both the CMS product side and the newsroom side, a method was in place to ensure that the newsroom was represented within every conversation related to this transition:

“Having me in the newsroom, having me be with the tech team as they built this and scoped this out, from the beginning we said, what are the things [the old CMS] currently does that we have to maintain? We had to be able to put stories on the home page, we had to put stories on the cheat sheet on the home page which is our breaking news product, we had to be able to put a photo on a story, things like that. Then we went through a list of things the system didn't do, and we wanted it to do.”

This also provided a clear channel for newsroom users to communicate to a trusted person that they had previously worked with and allowed them to be comfortable making requests and navigating this transition process “Because I came out of the newsroom and managed the newsroom for half a year before I came to product, people usually just email me or slack me directly,” says this product team member. “They were perfectly happy to take my recommendations when I was sitting on the newsroom side, so I'm always hoping that they'll take those recommendations now that I'm sitting on the other side of the table.”

It also made it clear that frequent meetings with editorial executives can further ensure that stakeholders' needs are being accurately represented, provided those executives are successfully gathering information from those newsroom users they are managing. By conducting these weekly meetings with editorial executives and clearly communicating where the focus is being directed, The Daily Beast has limited confusion and wasted resources. As another product member puts it:

“There’s a great relation between the production/editorial and the design and development team. They meet regularly with the editor and chief, with the senior editor to discuss what comes next, what their wish list is, kind of make a road map of what’s realistic timeframes, that kind of thing. I think that’s the key, having a constant dialogue between editorial and the development team so that they understand what they want and it’s realistic, to kind of work together to get something out that is realistic.”

To further limit disruption, the Daily Beast also gave early access to tech savvy newsroom users so that pain points could be ironed out before a full launch. When the transition was about to go live, multiple weeks prior, specific users were given access to the product. Rather than yanking the rug out from under the entire newsroom, this gradual transition, piece-by-piece allowed users to get more comfortable and well acclimated to the new system.

According to another Daily Beast product team member:

“[Power users] were given access to PTK on the staging server, so that we were able to really get comfortable with it before they flipped the switch for good. The longer they have to play with something, and they see the environment where they’re like, ‘Oh god I’m gonna make a mistake, I’m gonna crash our website,’ the better.

At The New York Times, a similar transition process is taking place. Though they are not switching the entire CMS, the organization is moving between article composition tools. Its new tool, known as Oak, has been rolled out to a large portion of the newsroom in recent months. This tool, which has been in development for numerous years, is managed by the product team,



which exists as a connection point between those physically developing the tools and the users integrating the tool into its work process. The Times used similar strategies as the Daily Beast to limit disruption.

Like The Daily Beast, gradual product rollout was key. Individual desks were asked to use Oak to create as much content as possible and provide feedback on what was working well about the system and what wasn't before the entire newsroom was forced to use the product. "We asked [the climate desk] to start using Oak a number of months ago," says a product team member. "The hope is that they'll use Oak for everything. The reality and expectation is that occasionally we need to use the existing tool for some things that Oak can't quite do yet, or for workflows where maybe it's a fast moving news situation ... They don't know how to break news using Oak yet."

In an effort to help with these breaking news situations and address the issue that the climate desk was facing in reporting breaking news, the team went back and looked at adding features like collaborative editing to help speed up the process. "One hypothesis that we've had, is that if you allow people to work at the same time, to write headlines, place art, view the story, that will allow the desk to work faster and more comfortably in breaking news situations," says the Oak product team member. "So after the climate desk started using these features, the percentage of stories they did using Oak rose from 70% to 97%."

The product team at The Times also tries to go beyond analytics. Another team member states that gathering feedback directly from users is an essential method in determining the successes and failures of a given system. "We look to satisfaction from our users," they say. "If we launch something new are they struggling to use it, are they expressing frustration and

difficulty? We try to do surveys to ask how people are feeling about the tools. The general health and happiness of our users is another input whether things are successful.”

Beyond large, groundbreaking shake ups like entirely new CMSes or big changes to core systems like article editors, conversation between users and developers also occurs with the implementation of smaller features. These are the individual tools that exist within the systems to help make the lives of journalists easier. Things like the collaborative editing feature mentioned above in the Oak rollout are a perfect example of this communication taking place through testing and analytics. The Daily Beast also provided an example of conversation taking place around a specific feature, centered on the use of capsule to store code within stories.

These modules, while allowing users a great deal of freedom to adjust specific elements within the page, could also break the page and cause confusion. “The problem with giving that kind of freedom, kind of being able to hack code into the page, is you lose style, you lose consistency throughout the site,” says a developer at The Daily Beast. “I might put in blue font, but it should be black, but the designer of the website wants everything to be very consistent. It crashed the site a number of times. If somebody puts messy code in there, it can create all sorts of problems, and it’s kind of like finding a needle in a haystack at times, it’s kind of like, which story has the bad code in it.”

When issues with bad code come up, pushing the the required platforms, be they Apple News, Clipboard or MSN, becomes a challenge, as many of these services will simply skip over articles that don’t meet the specific, individual standards for use. As a result of the somewhat stringent platform requirements, alongside user error, The Daily Beast opted to remove the

feature. Though this has reduced the flexibility within the system, the priority was placed on timely and efficient production of content.

At all the news organizations that I spoke with, there is a massive focus placed on this philosophy of efficiency. At The Times, this strategy has become paramount in reevaluation workflows. At The Daily Beast, it was the primary motivator for the construction of its new platform, and at Mic, taking action to ensure journalists have as much time as possible to devote to the production of content seems central to its strategy. A prime example of this communication was clear to see in Mic's newsroom.

Mic recently made the decision to invest resources in the creation of a feature addition to its CMS story tool which would allow for the construction of tap-through stories to be hosted on a number of different platforms. There overarching goal for the tool was to allow a single newsroom user the ability to add stories to a queue and populate the platform without having to have any knowledge of design or animation. "That's what makes it brilliant for Mic, because you have our Snapchat team editors and our Facebook team editors [that] are so overwhelmed with what they have to do for their show," says the product team member behind this tool. "This tool is perfect for our audience team who focuses on social media and products, and since this daily news piece is going to be on social media and our website, they're the ideal people to make this. With the tool you can make it such a small amount of time, versus what you'd have to do with multiple people."

This idea of efficiency clearly bleeds over into the tools being created. Developer time is a resource, and spending it on tools that won't actually help the workflow or help users be more capable in their production can be seen as somewhat of a waste. "We don't want to make

decisions in the short term that are going to mean we're going to do a lot of work for something that won't pay off later," says a product team member at The Times. There is an ongoing conversation within these news organizations about how feature rich the CMSes need to be in order to be successful. Though these operations expressed the desire to empower the newsroom to be able to create better content, time and responsiveness can sometimes overshadow creativity and customization within these tools.

Finding a balance between features and usability was one of the key challenges in designing these systems. Too much, and users get bogged down, forget about capabilities, or can break things, as in the case of The Daily Beast, but too little, and users can feel hampered or hemmed in by the very system that is meant to empower their work. While this could be seen as detrimental to some journalists, the users that I spoke with claimed that responsiveness was also a big goal in their work as well:

"Even though it's so barebones on the surface, behind the scenes it's really capable ... One thing I like about it is, you copy a YouTube link into the body of the page and all of a sudden it automatically embeds the video ... I would say that It's really nice if you have to get the news up quickly, just being able to open up the CMS, edit in the CMS and just write it right there. I used to write my stories first in evernote and then copy it over to the CMS but to just be able to write in the CMS kind of shortens things."

When comparing this CMS to the old one, this particular reporter does lament the loss of more customizable features to build more in depth story experiences. "[It is] really simple, it's good if you're writing a quick post or a medium post, but if you want something that's really involved, the CMS may not let you do that. You kind of have to have special privileges."

The input from this reporter highlights this dichotomy between powerful and usable. Part of this decision-making process is related to out of the diversity in skill sets and user capabilities within the newsroom. With so many different people with hands in a system, it seems that these

large organizations have placed bets on usability first, adding features as it goes, based on what is found to be effective.

### **Bugs and troubleshooting**

The other central area where interaction between newsroom users and product team/developers occurs is when troubleshooting issues or fixing bugs. In this mode of operation, the goal is to create a stable product that breaks as little as possible, allowing newsroom users the ability to continually put out work with limited interruption. Maintaining this stability requires communication from both parties.

On the user side, they are expected to report issues that they see within the system via Slack channels or direct communication with the product and development team. In all of the newsrooms that I spoke with, Slack is the primary avenue used for reporting bugs, and some of the CMSes also have a baked in method for users to report errors, as is the case in Mic's CMS.

Users also frequently collaborate with one another to draw from the community pool of knowledge, similar to what is outlined to take place in the Communities of Practice theory in sociology, where individuals within the community come together to share information about work practices and usage.

At The Times, these power users often become go-to's for many in the newsroom when attempting to work through issues. As one editor says "we make the mistake ourselves and then work our way out of it. Some of it is just talking with editors in the room. Usually there are a couple power users in the room on whatever program it is that can help." Another mentions that his go to power users evolved "organically ... friends from having worked on stuff."

It is these power users who are often asked to join in beta testing groups for new features, as mentioned in The Daily Beast rollout and the Oak launch, and often times they are responsible for helping get other users acclimated to the new systems, or “evangelizing” as product team and editorial team members from The Daily Beast and The Times put it.

On the development side, communication related to troubleshooting arises after data has been gathered through the respective channels, be they the newsroom help Slack at The Times, or similarly titled options at both The Daily Beast and Mic. “There’s a web tech channel, for the ‘Oh god, it’s down,’” moments says a Daily Beast product team member. Another Daily Beast product team member states that “Roughly 16 to 18 hours a day, someone will respond to you in a timely fashion, if you say ‘hey, I keep getting logged out,’ or ‘hey, the screen is frozen.’”

By establishing clear and working spaces for this troubleshooting, these organizations are ensuring that users are able use a clear channel to communicate problems.

### **What’s it mean for other newsrooms**

It is clear that these product teams and developers are gathering input from various newsroom users. They communicate through meetings, and via surveys, testing periods and bug fixing in Slack channels and other interoffice channels. So what does knowledge about this communication offer other news organizations? There are a few guiding principles regarding CMS use practices and communication with developers which may be useful for newsrooms, both large and small, that will certainly face CMS related issues.

### **Make time for specific interaction**

It is clear from these conversations that newsrooms that have built its own systems are either making time, or attempting to make time for conversations that revolve around the CMS

and workflow practices. A common thread for most of the developers and tech people that I spoke with during these interviews was to suggest frequent conversation between editorial and development/product. These types of communication are not always easy to establish within organizations, especially with bandwidth being consumed by a variety of ever-increasing responsibilities. With so much on the plates of both developers and editorial staff, oftentimes these interactions are strained or don't take place at all.

In Mic's newsroom, though the product and editorial team sit in the same office and frequently collaborate, it can be difficult to find the bandwidth to schedule these kinds of meetings, even though members on both sides of the divide believe them important. One newer member of the Mic product team weighed in on this interaction:

“We had a product team meeting a few weeks ago where we talked about actually sitting down with the editorial team and figuring out what struggles they face and how we could help them as a product team. No one on the team, even though some have been there for years, could think of a single time they've done that ... No one had ever taken the time to set up a meeting and just sit down and say, what are the things that really cause an obstacle in your reporting, whether that be transcribing or whatever, what tools could we build or add to our CMS to make your life easier?”

Though the Mic product team may not have specifically sat down in a scheduled meeting, there have been frequent and consistent efforts by individual members to and leaders to get a gauge on the wants and needs of the editorial team. Another member of the product team at Mic is frequently meeting with members individually to learn about the wants and needs of the editorial staff:

“When it comes to the CMS specifically, we do try to talk as much as we can with editorial and see what their needs are ... I try to talk as much as I can with people on editorial with what their needs are and how we can help them out more. We're working on building that out a little bit more with a team that's in the office .. having regular meetings and making sure that comes in a more structured way.”

This was also true of the product team at The New York Times. “We’re also working with the folks with design specialty to think about how the workflow fits together with individual people and create a better vision for how the entire CMS functions as a whole, so that folks are not having cognitive dissonance as they’re moving from photo interfaces to homepage interfaces to planning interfaces,” says a product team member at The Times. “Very much a work in progress, but something that we’re excited to be including the design team to help us do more.” The theme holds true when examining conversations with The Daily Beast as well. “You just have to be super specific in your communication, both in what it looks like and how it should function,” says one of their product team members.

It is important to understand that time strain is not unique to any one news operation. Across the board, even with massive operations, this can be an issue. In smaller newsrooms, where the CMS might not exist as a homegrown entity, there still may be a great deal of benefit from having newsroom users take a small portion of their time to meet with CMS developers from time to time to iron out issues.

The benefits of this thought process and these meetings were made abundantly clear during the interviews. Each of the three news organizations interviewed have its product/developers in the same building as the editorial staff. This allows for a very personal relationship to form between the two groups, as was the case at The Daily Beast, where a member of the newsroom took the lead on the development project and they say that they “sit in the row that butts up against the row in the newsroom, so I literally sit next to 2 reporters and an editor.” At The Times, product team members and developers make “house calls [in relation to visiting various news desks], so we can often see the problem folks are having in real time.” In



the case of the Mic developer mentioned above, they were individually meeting with users to feel out problem areas. This makes a strong case that personal face-to-face communication is valuable to ensure that not only do problems get solved, but that users and developers can learn to more clearly communicate and feel heard by one another. Though not all newsrooms have the luxury of having developers exist in their space, in today's tech-first day and age, there are endless possibilities for remote networking and meeting spaces that may be able to be used to facilitate better communication between the two parties.

### **Documentation and its limits**

It was highlighted during these interviews that documentation of features is essential in ensuring that newsroom users have resources available to teach them about the tools at their disposal. With the Daily Beast launch, this documentation was helpful in easing people through the transition process. "It was a lot of handouts, it was a lot of lists," they say. "A lot of in-person training. [We] went one by one and went here's how to use it, here's how to build an article ... for the remote folks we did them all over slack and calls and did screen sharing."

The idea that technology changes should be documented is nothing new; however, when speaking with product team members across these organizations, many stressed the difficulty in getting people to actually find and read provided documentation. At The Daily Beast, all features have documentation that exists for users to access, but according to one Product Team member, getting users to actually use it is rare:

"We did Google Docs how to build a story, how to build a chain, how to update certain things on our website. The problem with the office mostly is that people don't look at them, or they can't find it when the time comes, they're actually doing something, so we chime in and we walk them through it. My experience is like no matter how many documents you give people, they're not going to take the time to read them all."

This was also an issue highlighted by a product team member at Mic as they detailed their experiences working collaboratively with others in the newsroom:

“After every meeting I would send out the minutes for the meeting and before the next meeting I would send out this agenda based on what would happen would happen last meeting ... but what I had noticed is that even though I was going out of my way to do all this ... there were definitely a good amount not reading it, so we’d show up to our meetings and they would completely forget everything we had discussed at the last meeting.”

Even though these documents were created and sent directly over Slack, there was still a challenge in getting people to care about changes that didn’t directly affect their work in a way that was visible to these users. Therefore, making these documents as official and easy to access as possible was the strategy that his particular product team member employed. “I literally had to copy and paste the documents into the email, because they just wouldn’t take the extra step. Which makes sense with how we use technology today. People don’t want to take the extra steps, they want to see it right where they are.”

It is important for newsrooms to understand that with extra responsibilities and time constraints, it can be difficult for users to make time to read intense documentation. This can be especially true when users are already unsure of features and hitting the ground in a breaking news situation where time is of the essence and taking the time to go read through documentation isn’t an option. The two takeaways here are that the more convenient and easy to access this documentation is, the more likely people will use it, and by making specific time to learn about these features, users will more easily be able to make brain space for successfully acclimating a new tool into their workflow.

### **Navigating workarounds**

The idea that any CMS is perfect should be dispelled immediately. Even within industry leading operations, there are bugs and problems and limitations. This is a fact of life that every newsroom user should accept. What this means is that in order for operations to move smoothly, it is essential to quickly learn and acclimate to the workarounds in place within a given system. It is also necessary for users to understand that not every bug or problem can be fixed or will be the highest priority. “You kind of have to live with some things that aren’t perfect,” says a product team member at The Daily Beast. “Often editorial requests get overshadowed by business requests. If revenue is tied to something, that would probably get priority over an edit request ... If it’s hampering our ability to react quickly to breaking news, that’s going to be at the top of the list, revenue is at the top of the list.”

While this might be troubling to some newsroom users who are trying to enhance storytelling capabilities, for purposes of communication, these product team members suggest that keeping these priorities in mind can better help newsroom users understand where input might actually make a difference or be utilized. “If someone comes to our team and says ‘hey I’m the commerce editor and really want this, this and this, [they need to] make the case for it.’” Says a product team member at the Daily Beast. “Tell us with data why this is a business priority, tell us why this is going to help the business, tell us what’s the smallest version of it we can build, what’s the largest version of it we can build? What’s the priority on it, what’s the urgency?”

These product teams are, at the very core, balancing business needs and user needs, and therefore, when users can understand this when they come to make a request, it may be more likely that said request is able to be executed. Further, it should also be noted that these systems

go through a series of compromises in order to find this balance. One such example came up in talking with the team members at the Daily Beast. Through their transition process, one particular issue remained constant with the system: the order of the bylines. The CMS was unable to distinguish which name came first in the byline when publishing stories, and this issue persisted from the onset of the switch until very recently, a time period of over a year. Though this wasn't an issue that was affecting the business end or the bottom line of the organization, byline organization can be an important verifier of status and accomplishment for journalists. After such a long time dealing with this issue, it finally became a business issue as journalists got more and more upset that such a small issue was never resolved. . In this situation The Daily Beast realized that to keep the reporters happy -- or as one staffer put it, 'as a retention play' -- other important business concerns would have to be reorganized, and the issue was finally put on the docket for their development team.

What this example highlights is that problems arise, and though business needs often come first, the integrity, quality and skill of the reporters working at these organizations is valuable, and by making the time to address these issues and find compromises, the organization was able to navigate a successful solution.

### **Moving forward**

It would be naive to think that this information and these ideals will fit with each and every news organization dealing with CMS related changes. That said, these tidbits of knowledge gleaned from industry leading organizations may begin to build a framework for other organizations to build upon. It is clear that proactive thought and planning is an absolute necessity for any operation dealing with technology. Finding the time to make these plans may be difficult,

especially when news organizations are facing ever-tightening financial constraints, and those newsroom users and developers have more and more piling up on their plates, but it is apparent that all of these news organizations are either already, or attempting to establish direct and deliberate times for meetings between product and editorial to discuss ways in which the organization can better empower and enable its members.

Through these meetings, these organizations are also putting in time ensuring that development time is being spent on tools that will actually maintain healthy and consistent usage patterns over time. In addition, the active use and maintenance of Slack channels to solve problems related to the CMS allow newsroom users a quick and effective communication route to report bugs. In situations where these problems are unable to be solved, these organizations also direct the newsroom to specific power users which are able to share knowledge about workarounds and other solutions which can be used to problem solve. These users are also tapped by product teams to help lead the effort through transitions and “evangelize” others to improve opinions surrounding new products.

Though I believe these principles are applicable to news organizations large and small, there is room for more research in this particular field. Figuring out better ways for newsrooms to budget time and energy to solve these problems is an ongoing task, and providing users with better and more powerful tools that can still be fast and efficient is certainly another avenue that could, and should, be explored.